

Project No. 3074
File: 3074.4

**DECEMBER MONTHLY PROGRESS REPORT
MONTANA DOT "PERFORMANCE PREDICTION MODELS"**

Monthly Progress	Susan Sillick, MT DOT
Report To:	Jon Watson, MT DOT
Agency:	Fugro-BRE
Contract No.:	HWY-30604-DT
Prepared By:	Harold Von Quintus
Date Prepared:	January 4, 2002

1.0 CURRENT MONTH WORK ACTIVITIES AND ACCOMPLISHMENTS

Task 1 – Literature Review

Complete. A draft memorandum was prepared and submitted to the Department in October 2001 that summarizes the models to be considered within this project. This memorandum will be updated when the calibration and validation of the 2002 Design Guide distress prediction models is completed during the first quarter of 2002.

Task 2 – Review of MT DOT Pavement-Related Data

Complete. This task is complete. However, Fugro-BRE will continue to monitor the LTPP database and update any missing data on the test sections with time.

Task 3 – Establish the Experimental Factorials

Complete. A draft experimental factorial and sampling/testing plan was provided to the Department in October 2001. This experimental factorial identified all sites included in the monitoring program: existing LTPP sites in Montana and in adjacent States, as well as the test sections that will be added to the program this year.

Task 4 – Develop Work Plan for the Monitoring and Testing Plans

Complete. A draft of the monitoring and testing work plan was completed and submitted for review to the Department in October 2001. The monitoring and testing work plan will be revised early next year after an initial analysis of the data is completed under Task 7.

Task 5 – Presentation of Work Plan to MT DOT

Complete. The Fugro-BRE team presented the results completed to-date under Phase I. The Phase I meeting was held October 2, 2001.

Task 6 – Implement Work Plan – Data Collection

The Fugro-BRE team have marked all non-LTPP sites for materials sampling and testing. These are listed in Table 1. However, the decision was made to postpone the materials

sampling at each of the non-LTPP sites until early Spring 2002. This will ensure that the districts will have the proper equipment and time to schedule traffic control activities. The Fugro-BRE team has completed a distress survey and prepared a map for each of the non-LTPP sites. A summary of each site visit is attached to this report.

The Fugro-BRE team reviewed the construction files and build plans to obtain the expected cross section for each non-LTPP site. A summary of the cross sections and the thickness of all bound layers is summarized in Table 2.

The Department conducted deflection basin tests and submitted these data to Fugro-BRE. A preliminary analysis of the data has been completed. All Level E data have been obtained for the LTPP sites in Montana and adjoining States. These data will be included in the database for future use on this project.

Fugro-BRE will schedule a meeting with Department personnel to review the materials sampling that will be required at each site.

Task 7 – Data Analyses and Calibration of Performance Prediction Models

All deflection basin data from the LTPP and non-LTPP sites have been characterized. Results from the basin analysis are included in this report. In summary, most of the sites have a typical or Type II deflection basin and the pavement structural response is considered elastic or deflection hardening. The backcalculation of elastic layer modulus will not be completed until the layer thickness measurements have been made during the materials sampling at each site.

Task 8 – Final Report and Presentation of Results

No activity.

2.0 PROBLEMS/RECOMMENDED SOLUTIONS

No problems were encountered during last month and none are anticipated for next month.

3.0 NEXT MONTH'S WORK PLAN

The activities planned for next month are identified and discussed below.

- Coordinate with Department personnel on an as-needed basis.
- Continue analysis of all data collected at the LTPP and non-LTPP test sections.
- Compute the IRI s from the longitudinal profile measurements.
- Initiate the preparation of site or test section reports for each of the non-LTPP sections.
- Schedule a meeting with Montana DOT personnel for the sampling requirements at each of the non-LTPP sections.

4.0 FINANCIAL STATUS

Following is a summary of the estimated expenses incurred during the month of December. Accumulated expenses for the project, estimated through the end of the month are represented graphically in the attached line chart.

Cost Element	Previous Month's Cumulative Cost, \$	Current Monthly Expenditures (Estimated), \$	Cumulative Costs (Estimated), \$
Direct Labor	8,943	2,129	11,072
Overhead	12,789	3,044	15,833
Consultants/Subcontractors	4,050	0	4,050
Travel	3,253	1,328	4,580
Testing	0	0	0
Other Direct Costs	52	61	114
Fee	2,909	656	3,565
Total Costs	31,996	7,218	39,214

The following table provides a summary of the total expenditures by the Montana and FHWA fiscal years in comparison to the allocated funds for each fiscal year.

Montana DOT Fiscal Year			FHWA Fiscal Year		
Fiscal Year	Allocated Funds Cumulative, \$	Expenditures Cumulative, \$	Fiscal Year	Allocated Funds Cumulative, \$	Expenditures Cumulative, \$
6/1-6/30 2001	15,000	0*	6/1-9/30 2001	65,000	31,996**
7/1-6/30 2002	218,969	39,214	10/1-9/30 2002	258,969	7,218
7/1-6/30 2003	348,969	---	10/1-9/30 2003	358,969	---
7/1-6/30 2004	388,969	---	10/1-9/30 2004	398,969	---
7/1-6/30 2005	428,969	---	10/1-9/30 2005	438,969	---
7/1-6/30 2006	498,969	---	10/1-9/30 2006	498,969	---
TOTAL	498,969	39,214		498,969	39,214

*June 2001 expenditures were combined with July 2001 expenditures.

**Parson Brinckerhoff invoices have not yet been received for work completed during the FHWA fiscal period: June 1, 2000 to September 30, 2001.

CC: Brian Killingsworth, Fugro-BRE
Starr Kohn, SME
Dick Moore, P-B
Amy Simpson, Fugro-BRE
Weng-On Tam, Fugro-BRE

Monthly Progress Report - Financial Status

Contractor: Fugro-BRE
Montana DOT: "Performance Prediction Models"
Fugro-BRE Project No.: 3074

Contract No.: HWY-30604-DT

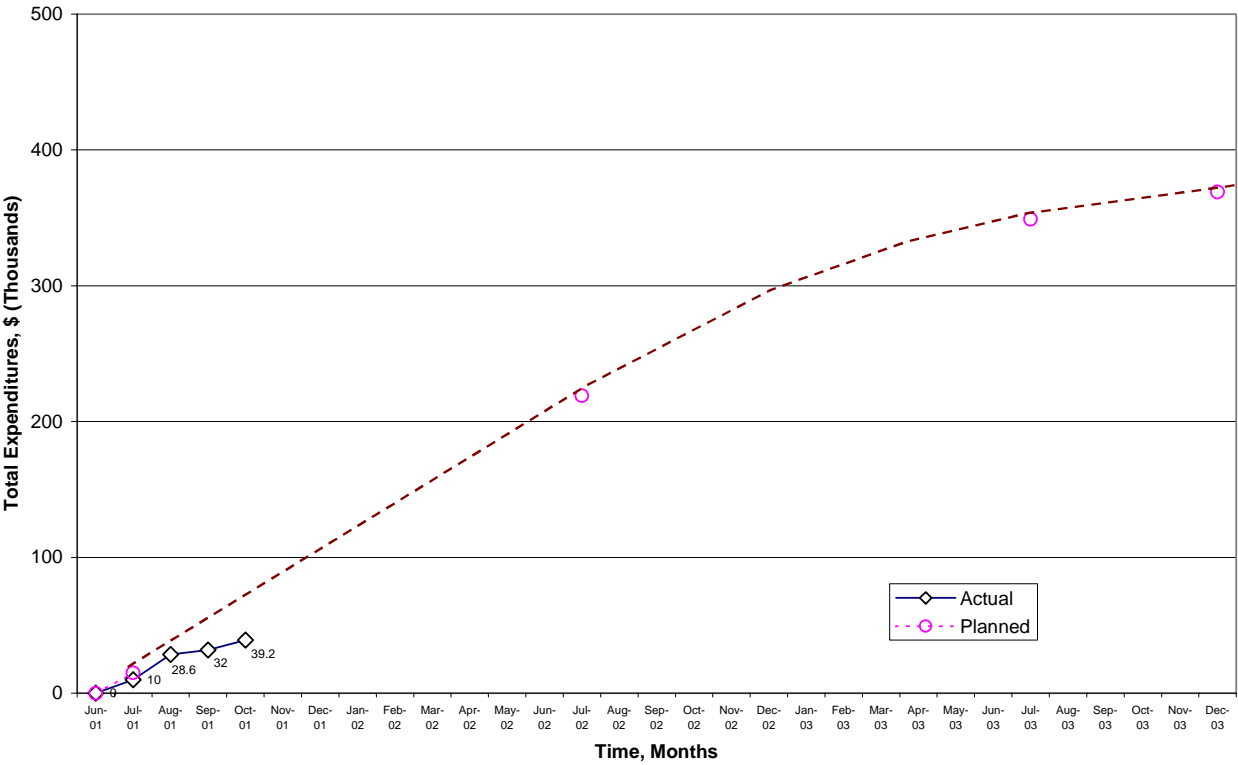


Table 1. Potential CTB LTTP Sites

Location Name	Mark Date	Type	Road Name	Project Reference Post		Approx. Pave. Age, Years	Laboratory / Maintenance Department and Location:
				Begin	End		
Beck Hill/Deerlodge	10/08/01	Pulverized	I-90	180.4	188.6	>1	Butte Lab, Butte MT
Perma County N	10/08/01	In-Place	S-382	6.3	17.7	5	Missoula Lab, Kalispell Mt
Condon N	10/08/01	Pulverized	P-83	31.4	47.7	5	Missoula Lab, Kalispell Mt
Silver City W	10/08/01	Pulverized	S-279	8.8	16.4	2	Butte Lab, Butte MT
Geyser E	10/09/01	In-Place	P-57	21.7	27.5	1	Lewistown Maintenance, Billings MT
Fort Belknap	10/09/01	New	P-1	430	446.3	10	Breat Falls Lab, Havre MT
Wolf Point S	10/09/01	New	P-25	36.12	45.9	6	Glendive Lab, Wolf Point MT
Vida N & S	10/09/01	New	P-25	27.78	36.12	6	Use Wolf Point site – this site is a duplicate for the _____ site and no field work is scheduled at this time.
Hammond NW	10/10/01	In-Place	N-23/P-23	92.3	108.5	7	Glendivfe Lab, Miles City MT
Lavinia W	10/10/01	New	N/P-14	137.5	142.2	10	Billings Maint, Billings MT
Roundup E	10/10/01	New	N/P-14	169.5	181.5	1	Lewistown Maint, Billings MT
East Helena E	10/10/01	Pulverized	P-8	49.86	53	2	Additional base material possibly added to level.

Locations are in order per the date they will be marked.

Table 2. LTPP Site Sampling – Probable Maximum Thickness of Competent Core

Location Name	Type	Road Name	PMS Surface, inches	Number of Lifts	Cement Treat. Base Course, in.	Other Base Course, in.	Existing Base Course, in.	Special Borrow, in.	Expected Cored Depth, in.
Geyser E	In-Place	P-57	4.1	2	9.1	0.0	13.2	0.0	13.2
Lavina W	New	N/P-14	3.0	1	12.6	0.0	Total Reconst.	0.0	15.6
Roundup E	New	N/P-14	3.5	2	16.7	0.0	Total Reconst.	0.0	20.2
Fort Belknap	New	P-1	3.6	2	7.8	6.0	Total Reconst.	12.0	11.4
Wolf Point S	New	P-25	3.6	1	16.8	0.0	Total Reconst.	0.0	20.4
Perma	In-Place	S-382	3.0	1	4.7	0.0	8.0-13.0	0.0	7.7
Condon N	Pulverized	P-83	4.8	1	0.0	9.0	4.9	0.0	4.8
Beck Hill - Deerlodge	Pulverized	I-90	7.4	3	0.0	5.5	30.0	0.0	7.4
Silver City W	Pulverized	S-279	3.5	2	0.0	3.1	3.5	0.0	3.5
Hammond NW	In-Place	N-23	4.2	2	7.2	0.0	10.8	0.0	11.4

Note: All sites or test sections are scheduled for materials sampling in March/April 2002.

LTPP Site Data Collection Sheet**Test Section Name:** Perma**Information Collected By and Date:** Brian Schlauch-10-8-01

Approximate Reference Posts	
Begin	End
9.75	9.75 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
GPS Unit Accuracy:		GPS Unit Accuracy:	

Will obtain during Sampling Process

Physical Description of Site

.5 miles north of Rainbow Lake turn off. S Bound Lane

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

None

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

None

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Low to Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Condon**Information Collected By and Date:** Brian Schlauch-10-8-01

Approximate Reference Posts	
Begin	End
43.45	43.45 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
47.32.775'	113.43.727'	47.32.820'	113.43.780'
GPS Unit Accuracy: 160'		GPS Unit Accuracy: 23'	

Physical Description of Site

North Bound Lane between MM 43 and 44.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

Minor in outside lane

Transverse:

very minor

Additional Notes on Cracking:

Longitudinal cracking is more significant in S bound, outside lane. Cracking seems to get worse as you travel south. Longitudinal cracking spreads out and begins to effect ride quality.

Types/Degree of Surface Deformation

Rutting:

Additional Notes on Surface Deformation:

Chip seal has begun to deteriorate along entire section

Types/Degree of Surface Defects

Bleeding:

Raveling:

Additional Notes on Surface Deformation:

Miscellaneous Distresses

Water Bleeding and Pumping:

Additional Notes on Miscellaneous Distresses:

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Moderate to High

LTPP Site Data Collection Sheet**Test Section Name:** BeckHill/Deerlodge**Information Collected By and Date:** Brian Schlauch-10-8-01

Approximate Reference Posts	
Begin	End
181	181 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
GPS Unit Accuracy:		GPS Unit Accuracy:	

Will obtain during Sampling process

Physical Description of Site

1.4 miles E of Beck Hill Road Exit over I-90. East Bound Lane

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

None

Additional Notes on Cracking:

No apparent/visible cracking

Types/Degree of Surface Deformation

Rutting:

Minimal

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
Roadway looks very good in general. New appearance with good ride quality noted.

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Silver City**Information Collected By and Date:** Brian Schlauch-10-8-01

Approximate Reference Posts	
Begin	End
9	9.5

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
46.45.090'	112.10.632'	46.45.134'	112.10.754'
GPS Unit Accuracy:		GPS Unit Accuracy:	

Physical Description of Site

Between Marysville turn off road and Silver City Bar. Just E of Marysville turn off road.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

None

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
Chip Seal has begun to wear off. Heavily in some areas.

Miscellaneous Distresses

Water Bleeding and Pumping:

Additional Notes on Miscellaneous Distresses:

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Geyser**Information Collected By and Date:** Brian Schlauch-10-10-01

Approximate Reference Posts	
Begin	End
23	23.5

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
47.14.241'	110.27.665	47.14.303'	110.27.756'
GPS Unit Accuracy: 20'		GPS Unit Accuracy: 20'	

Physical Description of Site

Just east of Geyser at MM 23.5.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

None

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Low to Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Roundup**Information Collected By and Date:** Brian Schlauch-10-10-01

Approximate Reference Posts	
Begin	End
170	171

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
46.27.173'	108.31.194'	46.27.201'	108.31.087'
GPS Unit Accuracy: 18'		GPS Unit Accuracy: 20'	

Physical Description of Site

Just E of Roundup at MM 170.5 near water treatment plant.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

Low. Some transverse cracking. Cracks have been sealed and there doesn't seem to be new cracks forming.

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
Chip Seal has begun to wear off in wheel paths. Majority of this occurs in E. bound lane.

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Low to Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Lavina**Information Collected By and Date:** Brian Schlauch 10-10-01

Approximate Reference Posts	
Begin	End
139.1	139.1 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
46.18.011	109.04.763	46.18.012	109.04.875
GPS Unit Accuracy: 20'		GPS Unit Accuracy: 20'	

Physical Description of Site

MM 139.1, approximately 1.5 miles West of Cushman turn-off.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

Minimal-Seems to break off of transverse cracks.

Transverse:

High

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Moderate to High- AC bleeding. Rutting/Bleeding more prominent in W Bound Lane

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

Yes-AC bleeding apparent in wheel paths. Chip Seal appears to be intact.

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Fort Belknap**Information Collected By and Date:** Brian Schlauch 10-9-01

Approximate Reference Posts	
Begin	End
442	442 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
48.24.628	108.30.209	48.24.643	108.30.325
GPS Unit Accuracy: 17'		GPS Unit Accuracy: 18'	

Physical Description of Site

At MM 142, approximately 12 miles E of Fort Belknap.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

Moderate- Mainly in outside lane. Occasional through-out project limits. Cracks apparent in center line of roadway.

Transverse:

Moderate to High- Cracks prominatly go all the way across the roadway. Some moderate degree of cracking at pavement edges from 2' in length up to 1/2 way across roadway.

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
Low-Apparent in wheel paths

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Wolf Point**Information Collected By and Date:** Brian Schlauch 10-9-01

Approximate Reference Posts	
Begin	End
38.4	38.4 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
47.57.216	105.30.904	47.57.296	105.30.937
GPS Unit Accuracy: 32'		GPS Unit Accuracy: 30'	

Physical Description of Site

At MM 38.4, N of Vida

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

None

Transverse:

Moderate- Most cracks go all the way across roadway. However, some go from 2-3' up to 5' across.

Additional Notes on Cracking:

None

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Low to Moderate

LTPP Site Data Collection Sheet**Test Section Name:** Hammond**Information Collected By and Date:** Brian Schlauch 10-10-01

Approximate Reference Posts	
Begin	End
95.4	95.4 + 500'

GPS Coordinates

Begin Test Section		End Test Section	
Northing	Westing	Northing	Westing
45.19.004	105.08.790	45.19.044	105.08.891
GPS Unit Accuracy: 17'		GPS Unit Accuracy: 17'	

Physical Description of Site

At MM 95.4, approximately 15 miles SE of Broadus.

Types/Degree of Cracking

Fatigue:

None

Block:

None

Longitudinal:

Low-Only present at edge of roadway, outside edge of fog line.

Transverse:

Moderate to High-Cracks have been sealed.

Additional Notes on Cracking:

Overall roadway is in very good condition with good ride quality.

Types/Degree of Surface Deformation

Rutting:

Low

Additional Notes on Surface Deformation:

None

Types/Degree of Surface Defects

Bleeding:

None

Raveling:
None

Additional Notes on Surface Deformation:
None

Miscellaneous Distresses

Water Bleeding and Pumping:
None

Additional Notes on Miscellaneous Distresses:
None

Ensure at each Site the Following:

Good line of sight in both directions for safety during sampling	Yes
Test location is not in a cut or fill area or has underlying obstacles/utilities	Yes
Uniform pavement conditions (Too much or less cracking)	Yes

Additional Info to Obtain and Note

Pictures Looking Both Ways from Start and End Point of Test Section	Yes
Pictures of typical site condition of pavement	Yes
Potential for Site to have reasonable amount of studded tire wear	Low to Moderate

Section id: KM289.49
 Year 2001
 Month/Day OCT 8

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	0	41
	Type II	0	0	3
	Type III	0	0	0
	Type I	0	0	0
Number of basins			44	

Section id: KM70.230
 Year 2001
 Month/Day OCT 8

Basin Categories		Load Response Categories		
		Deflection Softening	Linear Elastic	Deflection Hardening
0	Unknown			
	Typical (Linear Elastic)	0	0	44
	Type II	0	0	0
	Type III	0	0	0
0	Type I	0	0	0
Number of basins			44	

Section id: KM709.92
 Year 2001
 Month/Day OCT 9

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	14	13
	Type II	0	14	3
	Type III	0	0	0
	Type I	0	0	0
Number of basins			44	

Section id: KM38.009
 Year 2001
 Month/Day OCT 10

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	22	0
	Type II	0	20	0
	Type III	0	2	0
	Type I	0	0	0
Number of basins			44	

Section id: KM152.98
 Year 2001
 Month/Day OCT 9

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	0	8
	Type II	0	0	36
	Type III	0	0	0
	Type I	0	0	0
Number of basins			44	

Section id: KM223.90
 Year 2001
 Month/Day OCT 10

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	8	5
	Type II	0	24	7
	Type III	0	0	0
	Type I	0	0	0
Number of basins			44	

Section id: KM15.777
 Year 2001
 Month/Day OCT 8

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	7	31
	Type II	0	5	1
	Type III	0	0	0
	Type I	0	0	0
Number of basins			44	

Section id: KM274.47
 Year 2001
 Month/Day OCT 9

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	0	10
0	Type II	0	0	26
0	Type III	0	0	0
0	Type I	0	0	0
Number of basins			36	

Section id: KM274.47
 Year 2001
 Month/Day OCT 10

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	0	2
0	Type II	0	0	6
0	Type III	0	0	0
0	Type I	0	0	0
Number of basins			8	

Section id: KM14.525
Year 2001
Month/Day OCT 7

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	16	0
0	Type II	0	0	0
0	Type III	0	0	0
0	Type I	0	0	0
Number of basins			16	

Section id: KM14.525
Year 2001
Month/Day OCT 8

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	28	0
0	Type II	0	0	0
0	Type III	0	0	0
0	Type I	0	0	0
Number of basins			28	

Section id: KM61.555
 Year 2001
 Month/Day OCT 9

Basin Categories		Load Response Categories		
Unknown		Deflection Softening	Linear Elastic	Deflection Hardening
0	Typical (Linear Elastic)	0	0	14
	Type II	0	0	29
	Type III	0	0	1
	Type I	0	0	0
Number of basins			44	
